

Integrative approaches to addressing risks associated with agri-food systems in Asia: Insights from an inter-regional dialogue



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Abbreviations

AMR	Antimicrobial Resistance
APEIR	Asia Partnership for Emerging Infectious Diseases Research
CU	Coordinating Unit
ECOMORE	ECONomic development, ecosystem MODification, and emerging infectious disease Risk Evaluation
EHNA	Ecohealth Network Asia
FBLI	Field Building Leadership Initiative (FBLI): Advancing Ecohealth in South East Asia
INDOHUN	Indonesia One Health University Network
IDRC	International Development Research Centre
ILRI	International Livestock Research Institute
KMU	Kunming Medical University
KT	Knowledge Translation
MBDS	Mekong Basin Diseases Surveillance
MU	Mahidol University
PHFI	Public Health Foundation of India
RCG	Regional Core Group
SEAOHUN	South East Asia One Health University Network
UI	Universitas Indonesia
VPHA	Vietnam Public Health Association
VWB	Vets without Borders

Background

With the world population predicted to reach 9 billion by 2050, sustainably increasing food production systems to support global food security is a real challenge. This is especially true for developing countries where nearly all of the population growth is expected to occur. Growth in agriculture, a primary source of livelihood for most of the world's rural poor, can help improve food security and livelihoods, and help countries to meet the sustainable development goals of ending poverty and hunger by 2030.

While agriculture intensification can improve food, nutrition, and income security; intensification can also lead to increased health risks, environmental degradation, and biodiversity loss. Regions facing rapid economic growth, such as Asia, are particularly sensitive to such risks. To address this complex challenge, a better understanding of the interactions between agricultural practices, human health, and ecosystems is needed.

The Field Building Leadership Initiative (2011-2016), supported by International Development Research Centre (IDRC), Canada, has been working for over four years to better understand and address health risks associated with agricultural intensification in Southeast Asia and China through research, capacity building, and networking. More specifically, researchers and partners are addressing health risks associated with pesticide use in China, human and animal waste management in Vietnam, rubber plantations and vector-borne diseases in Thailand, and small-scale dairying in Indonesia. The initiative has supported development of sustainable cohorts of Ecohealth practitioners, for example through the Global Health True Leader series, and helped integrate Ecohealth curricula in four partner universities. Policy alliance groups were formed in each project country to facilitate knowledge sharing and uptake of research findings. These groups consist of mid-level policy makers, senior FBLLI researchers and representatives from other regional networks.

While progress has been made in generating evidence and building capacity to reduce risks associated with agricultural intensification, there is a need to take a step back and explore agricultural food systems, the complex set of components from production to consumption, which are integrally linked to agricultural intensification. Many networks in the regions are working at the intersection of agriculture and health, and are using integrative approaches (i.e. looking at systems surrounding a complex issue as a whole, and using coordinating approaches to address the issue). Agri-food systems present a potential entry point to mobilize and harness the collective strengths of 'integrative approach' networks. Exploring partnerships across networks to address common challenges of agriculture and health is the objective of the inter-regional dialogue.

Context

From February 15-19, 2016, the Field Building Leadership Initiative (FBLI) held a networking and dialogue event, followed by the 3rd annual FBLI regional core group meeting and FBLI writeshop. These meetings were held at the Sukosol Hotel in Bangkok, Thailand.

The networking and dialogue event brought together 23 participants, mainly researchers, to discuss integrative approaches to addressing agricultural developmental challenges in Asia (in particular on health, agriculture, food systems, and the environment); and to explore future collaborations. Participants had affiliations with FBLI, APEIR, ECOMORE, EHNA, SEAOHUN, INDOHUN, MBDS, and VWB. Participants represented a variety of academic and professional disciplines, including public health, environment, agriculture, economics, and human and veterinary medicine; and have extensive experience in using integrative approaches in Asia. Each network reported activities of their network or organization, and shared perspectives for regional collaboration.

Following the networking and dialogue event, the FBLI team and invited guests attended the 3rd annual FBLI regional core group (RCG) meeting to update FBLI activities, plan final year FBLI activities and events, and discuss ideas for collaboration post-FBLI. A key focus of the meeting was the 2-day writeshop where FBLI synthesis products, including book chapters and publications, were planned and roles were assigned. FBLI workshops and future events were also planned, and key areas for new collaborations and projects were identified.

Network meeting

Applying integrative approaches

Participants reflected on their experiences in using integrative approaches in development projects. Many challenges were expressed, in particular, the lack of a supportive environment for conducting integrative research, knowledge translation, and policy advocacy; staying in one discipline is easier than cross-disciplines; potential momentum loss from turnover; sustainability of networks after project ends; and finding time and money to use integrative approaches to its full potential. However, despite challenges, participants emphasized the need for continued support and use of integrative approaches. Important aspects to consider when using such approaches include:

- Think from systems perspective;
- Involve local people, and others who will actually use the information, from the beginning;
- Build relationships, a key to collaboration;
- Perhaps too many networks, but not enough communication, regular communication is a must; *and*
- Share lessons learned, both positive and negative.

Challenges of agri-food systems

Through a participatory processes, participants identified the main challenges and health risks of agri-food systems in Asia. The main drivers, in order of priority, are economic growth, population growth, climate change, urbanization and agricultural intensification. Others include technology development, population dynamics, migration, and pollution from environment degradation.

Health challenges include food safety, antimicrobial resistance, food security, occupational hazards, vector-borne diseases, non-communicable diseases, zoonoses, food poisoning, and environmental issues (regarding wastewater, irrigation systems, and pesticides). Animal source foods, aquaculture products, and vegetables were identified as priority commodities.



Brainstorming and determining priorities

How can we strengthen and use “integrative approach” networks to address challenges, and be competitive for funding?

When working with many networks or partners, focusing on transdisciplinarity and leveraging resources, knowledge, and skills of those involved was recommended as key to strengthening and using integrative approach networks. A way towards achieving this goal is to find the ‘champion’ in each network with great leadership skills to focus on communication and collaboration between networks. Going further, strive for regular networking events (both informal, formal) to stimulate exchanges.

The use of participatory approaches that involve local stakeholders in the research process is crucial to addressing agricultural development challenges. On the other hand, it is also important to bring perspectives of ‘integrative researchers’ when stakeholders are developing solutions to complex problems. However, this process will require funding from main donors supporting integrative approaches, and potentially other sources of funding are needed.

From a donor perspective, there is no way in which all issues can be addressed, however, highlight group strengths in few key words (e.g. scale, leadership, partnership). Demonstrate what values you bring in (e.g. ability to use networks and pool resources together to address global development challenges). Be innovative (e.g. involve industries, consider economic benefits for them), but also be

realistic. Consider future direction of funders, and align your project with funder's priorities. Keep in mind that most donors want to spend big money, for big impact. Consider finding a common issue across regions and working together. To conclude, identify who you want to work with and develop a few concept notes that demonstrate your collective strengths, what you learned from working together, and what you want to work towards.

3rd annual FBI RCG meeting and writeshop

Following the networking meeting was the Regional Core Group (RCG – the decision and management body of FBI) meeting. This RCG meeting was open to extended participants for the first time, which included FBI regional core group members (present: Hung Nguyen-Viet, Dinh Xuan Tung, Fang Jing, Wiku Adisasmito; absent: Pattamaporn Kittayapong, Xu Jianchu, Sonia Fèvre), FBI team members (Pham Duc Phuc, Luu Quoc Toan, Pham Thi Huong Giang, Steven Lam, Suwannapa Ninphanomchai, Suporn Thongyuan, Tian Lichun, Nurul Maretia Rahmayanti, and invited guests (Arlyne Beeche, Manish Kakkar, Bruce Wilcox, Le Vu Anh, Hoang Thi Thu Ha). Participants discussed FBI progress, future plans, and plans post-FBI at the 3rd annual FBI regional core group meeting. A key focus of the meeting was the 2-day writeshop, kicked off by Bruce Wilcox who gave a presentation on how to write a 'good' scientific paper. During this writeshop, in-country, cross-country, and regional synthesis publications were planned.

Some general questions arose for Pattamaporn Kittayapong who could not attend the meeting due to conflicting schedules: 1) when will the Ecohealth Degree Programs of Mahidol University be accepted; 2) can we still send students, if so, 3) how many and when; and 4) is joint teaching still possible? Following the meeting, these questions were answered by Pattamaporn and summarized as follows: 1) the Ecohealth Degree Programs have to be approved by the Committee for Degree Program Development selected and appointed from 9 faculties/institutions before they could be submitted to the Faculty of Graduate Studies and then Mahidol University Council. It is expected that the process will be completed by the end of the year; 2) students could be sent to these Degree Programs after they are officially offered as the budget to support students had been transferred to the Faculty of Science who will manage the student scholarship; 3) it is expected that 1-2 students per country will be supported; 4) joint teaching is still possible when the Degree Programs are officially offered. Pattamaporn also informed the outcome of her participation in the WHO/TDR meeting organized in Lisbon, Portugal at the same time with this FBI meeting, that the Ecohealth Degree Programs of Mahdiol University will be more visible internationally on the global platforms for hosting courses related to vector-borne diseases (which will be developed in the near future under WHO/TDR support). Regarding general reporting, Wiku reminded teams to send seed funding information for compilation.

Arlyne Beeche (IDRC) confirmed that previous year reporting was 'OK'. FBI activities and outcomes, outlined in the coordinating unit regional brief, were well-received at the Kalka conference (2015) and from IDRC. From a donor perspective, FBI is "meeting expectations, perhaps exceeding".

Writeshop

The FBLI is approaching its final stages of implementation and there is a need to synthesize and disseminate research evidence. The FBLI organized a writeshop to facilitate discussion surrounding dissemination plan.

Some questions were addressed during the writeshop:

- What kinds of data have been generated from each country team?
- What is plan for publication of each country?
- How can we work together to prepare regional papers for publication?

At the close of the writeshop, team members expressed commitment in publishing several outputs, including in-country, cross-country, and regional synthesis publications with support of invited guests (Bruce Wilcox, Manish Kakkar). Publications, roles, and deadlines were agreed on by team members, and are presented in **Table 1** below.

Table 1. Regional publication plan

	Title/context	Article / chapter	Leader authors*	Timeline	
				Outline	Draft
1	SDG and agriculture intensification	Article	Fang Jing, Dinh Xuan Tung, Bruce Wilcox	July	-
2	Impact of agriculture intensification on health in Asian-context	Chapter	Wiku Adisasmito, Bruce Wilcox	April	June
3	Potential solutions	Article	Wiku Adisasmito, Pham Duc Phuc, Bruce Wilcox	April	June
4	Food safety, food production system (methodology/gaps in NCD and IED)	Article	Hung Nguyen, Fang Jing	July	-
5	Regional book	Book	Steven Lam	After all paper published	
6	Document FBLI process	Article [suggested journal: health policy and planning]	Fang Jing, Wiku Adisasmito, Dinh Xuan Tung, Pattamaporn Kittayapong, Nguyen Viet Hung, Arlyne Beeche	May	-
7	SEA – South Asia links	Article / chapter	Manish Kakkar, Arlyne Beeche	April	-

**First name listed is the lead author*

Thailand

- Test DEET-impregnated vests in pilot site, assess satisfaction
- Write publications

Coordinating Unit

- Write 6-month bulletin and final technical report
- Conduct outcome evaluation of Thailand team, and write summary evaluation
- Coordinate KT regional workshop
- Concerns raised regarding who will write regional synthesis products (e.g. systematic review)

Schedule of workshops and events

FBLI has 2 key workshops planned, including the knowledge translation workshop, and final research workshop. The importance of South Asia, Asia, and China collaborations was emphasized many times during discussions, and so a meeting will be held in New Delhi this year to continue the discussion. To promote dissemination of FBLI work, team members will attend the international Ecohealth conference in Melbourne in December.

1) KT workshop

Perhaps with ASEAN secretariat (Wiku to follow-up)
August-September 2016

2) South Asia and Southeast Asia meeting

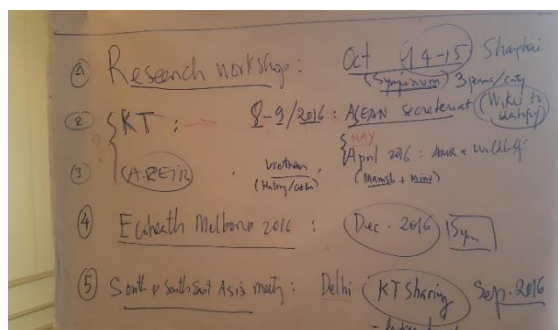
- Objectives: linking regions and KT sharing
- Perhaps 2 RCG members attend
New Delhi, India, September 2016

3) Final Research workshop (3 people per country)

Shanghai, China, October 14-15, 2016

4) International Ecohealth conference

Melbourne, Australia, December 2016



Setting workshop and event dates

Way forward for new projects and collaborations

Reflecting on FBLI progress and its future, participants expressed the need to synthesize what was learned from FBLI (e.g. agriculture intensification and health), and convey messages to donors. It was mentioned to: consider other donors, both international and national; and include perspectives of non-academic people, and those with a holistic view into the project. Rather than focusing on Ecohealth, focus on strengths of the network (integrative approaches and transdisciplinarity). Regarding innovations, it is not necessary to 'reinvent the wheel', however, do highlight gender and vulnerable groups, economic benefits for policymakers and industries, and demonstrate potential for scaling up.

For IDRC specific projects, highlight key words or strengths. If applying for the food-environment-health stream, consider priorities of the program such as market innovations (e.g. targeting kids, labelling), and how they apply to specific areas such as peri-urban, rural. Present broad picture or issue, then the specific issue you are targeting, and be clear how the project fits into IDRC programming. Linking Southeast Asia, China, and South Asia to address an issue in all regions, before a call is proposed, is promising. If projects do not related to food systems or agriculture, can still present idea to IDRC (potential funding through 'forward fund').

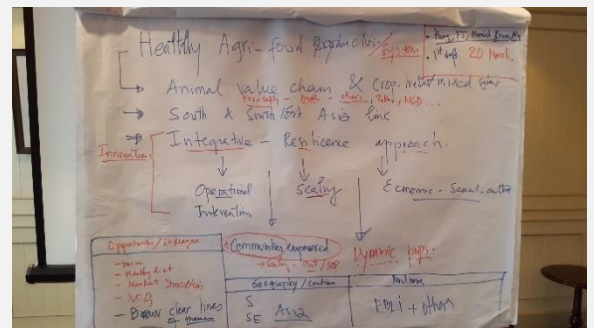
Possible areas discussed

Theme	Innovation or methods
Agri-food production systems	Transdisciplinary, integrative approach
Healthy agricultural food systems	Participation approach
AMR, zoonoses, NCDs	IT mobile, internet
Environment	Demand-led (consumers)
Animal value chain	Specific innovations to problems
Rural-urban transformation	Community capacity empowerment
Social economics	Cost-efficiency consideration
Building resilience of health systems	Locally relevant feasible solutions
	Emic, resilience, vulnerability

Summary:

In summary, under the broader 'healthy agri-food systems context', the priorities of the new project and collaborations are:

- NCDs, vaccines, healthy diet, market innovations
- animal value chain (crop-livestock mixed system)
- South, Southeast Asia and China link with FBFI and partners
- Integrative approaches as operational framework, community empowerment for scaling out
- Consider resilience, economic / social / culture context



Setting workshop and event dates

1st Draft deadline set March 20 (Hung, Fang Jing, Manish, Bruce, Arlyne)

Participant list

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See annex for program booklet

See the early synthesis booklet of FBI: <http://ecohealthasia.net/news/102-the-fbli-synthesis-book.html>